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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,593	09/05/2006	Elias Bitar	4590-559	3392

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EXAMINER	
NGUYEN, CHUONG P	
ART UNIT	PAPER NUMBER
3663	

MAIL DATE	DELIVERY MODE
12/19/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/591,593	BITAR ET AL.	
	Examiner	Art Unit	
	Chuong P. Nguyen	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) *3-5,8 and 9* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,6,7 and 10-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 September 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of species A1 and B1 in the reply filed on 09/29/2008 is acknowledged.

2. Claims 3-5 and 8-9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 09/29/2008.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-2, 6-7, 9-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claim 1, the claimed process (a) does not result in a physical transformation or (b) must be limited to a practical application, which produces a useful, tangible, and concrete result. The claimed process comprises nothing more than cataloging areas and does not include a practical application of the data. There is no step that includes applying that information to produce any kind of real world result (e.g. displaying the information to the user or outputting the results for controlling / maneuvering the craft). For process to be statutory, a computer and the descriptive material claimed must act to define a structural and functional interrelationship between the "modeling" steps and the claimed elements of a computer such that a tangible result

is realized and therefore useful. The claim does not appear to use any of the data manipulated by the claimed method; therefore, the claim is not statutory process.

Other claims are also rejected based on their dependency of the defected parent claim.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-2, 6-7, and 9-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 1, the claim is a single step claim i.e., where a step recitation does not appear in combination with another recited element of step, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph. *In re Hyatt*, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983).

Other claims are also rejected based on their dependency of the defected parent claim.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-2, 6-7, and 9-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-2, 6-7, and 9-14, the claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Regarding claim 2, the phrase "in such a manner" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

In addition still regarding claim 2, the limitation of the addition obstacle's concavity encompasses the instantaneous position of the craft is unclear and not readily understood. Applicant is requested to provide support of how the addition obstacle's concavity can encompass the instantaneous position of the craft if it is disposed only in the neighborhood of the instantaneous position of the craft.

Regarding claim 13, it recites the limitation "the application" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claim 1, as best understood, is rejected under 35 U.S.C. 102(b) as being anticipated by Michaelson et al (IDS references – US 6,469,664).

Regarding claim 1, Michaelson et al disclose in Fig 1-2; 11-44 a method for estimating curvilinear distance within a region where a craft with limited maneuverability is traveling and which contains potential obstacles to be circumvented, which region is referred to as travel region, in which a map of distances is established covering the travel region and having as origin of the distance measurements the instantaneous position of the craft, comprising the steps of: when the distance map is established, in completing the potential obstacles to be circumvented by an additional obstacle to be circumvented, placed in the neighborhood of the craft and associated with the craft, and cataloging areas of the near neighborhood of the craft considered to be inaccessible to the craft owing to its limited maneuverability (col 6, line 15+; col 17, line 13 – col 34).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 2 and 10, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Michaelson et al.

Regarding claim 2, Michaelson et al do not explicitly disclose the additional obstacle is of concave shape and disposed in the neighborhood of the instantaneous position of the craft as claimed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include such additional obstacle, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. *In re Karlson*, 136 USPQ 184. Regarding claim 10, although Michaelson et al invention is silent as to the specifics of applying mathematical formula / equation for determining the contour of the additional obstacle and the distance map; however, applying any mathematical formula / equation, including that of the claimed invention, would have been an obvious design choice for one of ordinary skill in the art because it facilitates known mathematical means for deriving the contour of the additional obstacle and the distance map, as shown by Michaelson et al . Since the invention failed to provide novel or unexpected results from the usage of said claimed formula, use of any mathematical means, including that of the claimed invention, would be an obvious matter of design choice within the skill of the art. In addition, it is also well known in the art of experimentation that one derives his or her own formulation / equation to operate a system. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the mathematical formula / equation for determining the

contour of the additional obstacle and the distance map in the method of Michaelson et al, since it is well known in the art to derive a mathematical formulation / equation to operate a system.

14. Claims 6-7 and 11-14, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Michaelson et al as applied to claim 1 above, and further in view of Meng (US 4,862,373).

Regarding claims 6-7, Michaelson et al do not explicitly disclose the contour of the additional obstacle comprises parts corresponding to the ground projections of two circles associated with the aircraft, having a radius equal to the radius of curvature of the tightest turn allowed for the aircraft at the time being considered. Meng teaches in the same field of endeavor in Fig 12 such contour of the additional obstacle (col 12, line 33 – col 13, line 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate such contour of the additional obstacle as taught by Meng in the method of Michaelson et al for determining the contour of the additional obstacle since it has been held that if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill (MPEP 2143).

Regarding claim 11, Michaelson et al do not explicitly disclose the additional obstacle taking into account the maneuverability limits of the craft is missing the surface area of a free angular sector starting from the craft and having its opening turned into the direction of motion of the craft. Meng teaches in the same field of endeavor in Fig 2-11 such addition obstacle (col 6, line 26 – col 12, line 32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate such additional obstacle as taught by Meng in the

method of Michaelson et al for determining and providing collision avoidance for a craft since it has been held that if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill (MPEP 2143).

Regarding claim 12, Michaelson et al do not explicitly disclose when the distance map takes the form of a grid of cells corresponding to the elements of a database of elevation of the terrain covering the area of travel of the craft, the additional obstacle taking into account the maneuverability limits of the craft is missing the cells that are totally or partially covered by the free angular sector. Meng teaches in the same field of endeavor in Fig 10, 13-14 such distance map and additional obstacle (col 11, line 33 – col 14, line 25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate such distance map and additional obstacle as taught by Meng in the method of Michaelson et al for determining and providing collision avoidance for a craft since it has been held that if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill (MPEP 2143).

Regarding claims 13-14, Michaelson et al do not explicitly disclose when the distance map results from the application, to the pixels of an image formed by a map taken from a database of elevation of the terrain, of a distance transform that uses a chamfer mask cataloging the distances of a pixel under analysis with respect to the nearest pixels, called pixels of the neighborhood, and that has axes of propagation oriented in the directions of the pixels of the neighborhood with respect to the pixel under analysis in the chamfer mask, the free angular

sector has its opening oriented along the axis of propagation nearest to the direction of motion of the craft and the free angular sector of propagation is bounded by bisectors of the angles formed by the axes of propagation. Meng teaches in the same field of endeavor in Fig 9 such free angular sector (col 10, line 52 – col 11, line 32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate such free angular sector as taught by Meng in the method of Michaelson et al for determining and providing collision avoidance for a craft since it has been held that if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill (MPEP 2143).

15. While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

Conclusion

16. The cited prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong P. Nguyen whose telephone number is 571-272-3445. The examiner can normally be reached on M-F, 8:00 - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CN

/Jack W. Keith/
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